

Pushing the Analysis One Step Further: Incorporating Multiple Variables

We recognize that investors tend to look at more than one variable when making an investment decision. Therefore, we have approached valuation of telecom stocks using a set of inputs. When we use EPS, EPS growth, and a risk adjuster as inputs for determining stock prices, we can improve on the correlations even further. In this analysis for the mature telephone companies, the confidence factor increased to 86.9%, indicating the combination of these inputs is a meaningful determinant of valuation.

Table 8 provides a list of stocks and variables — 1994E earnings per share, Morgan Stanley's estimates for five-year EPS growth rates, and betas — in our multi-variable approach. Not only is the confidence factor over 85%, but earnings and earnings per share growth provide statistically significant results. We have further used the correlation to provide a set of predicted prices for the stocks based on the inputs. These are also outlined in Table 8.

Interestingly, there is significant overlap between stocks attractive in this analysis and in our single-variable studies. KPN, US West, NYNEX, and TeleDanmark, for instance, all screen attractive. Also, Singapore Telecom continues to screen fully valued. Cable & Wireless' attractiveness is captured more successfully in this analysis, in our view.

Table 9

Regression Output Incorporating Multiple Variables

Constant	9.6299619		
Std Err of Y Est	7.6700763		
R Squared	86.9%		
No. of Observations	29		
Degrees of Freedom	25		
	Earnings	1994E EPS	Beta
X Coefficient(s)	13.701373	0.542107	-13.24774
Std Err of Coef	1.1293023	0.3082801	8.5101092
T-Statistic	12.1326	1.7584882	-1.5567062

Table 8

Multi-Variate Regression Results

	Price on 9/30/94	1994E EPS (in US\$)	5yr Growth	Predicted Beta	Predicted Price	Percent Change
AIT	41.88	2.90	6%	0.77	\$42.42	1.3%
BEL	53.13	3.55	8	0.77	52.41	-1.4
BLS	58.13	4.15	5	0.77	59.54	2.4
NYN	37.88	2.93	5	0.75	42.55	12.3
SBC	41.5	2.67	9	0.81	40.36	-2.7
USW	39.38	2.9	7	0.75	43.22	9.8
GTE	30.25	2.34	7	0.87	33.96	12.3
BCE	36.25	2.38	5	0.43	39.25	8.3
BTY	59.63	3.8	6.6	0.9	53.35	-10.5
CWP	19.25	1.14	15.5	0.43	27.96	45.2
TEF	39.88	2.4	9.9	0.76	37.81	-5.2
KPN	30.75	2.43	15	0.94	38.60	25.5
HKT	20.38	1	16	0.68	23.00	12.8
ST	23.6	0.5	16	0.87	13.63	-42.3
FOU	38.61	2.48	5	0.9	39.82	3.1
MCIC	24.33	1.4	6	1.11	22.78	-5.6
PAC	31.88	2.6	4	1.02	33.91	6.4
T	54.63	3.25	2	0.93	48.34	-11.5
LDDS	21.25	1.05	8	0.84	22.65	6.6
AT	27.13	1.6	1	0.87	25.99	-4.2
TMX	63.38	6	5	1.21	83.94	32.4
CTC	88.5	4.76	19	0.99	72.03	-18.6
TLD	54.02	2.83	25.7	1	49.09	-9.1
PLDT	60.28	3.79	12	1.1	53.49	-11.3
NZ Tel	50.38	2.24	10.2	0.9	33.93	-32.7
Telef Arg	6.68	0.33	24	1.1	12.59	88.5
Telecom Arg	6.58	0.26	20	1.1	9.46	43.8
Tel Malay	7.87	0.24	14.5	1.2	\$20.78	164.0%

E = Morgan Stanley Research Estimates, except GTE, BCE, T, LDDS, AT, TLD, and NZ Tel, which are First Call consensus estimates.

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Does a Diversified Telecom Portfolio Really Pay Off?

Does investing in a diversified portfolio of telecom names really pay off, or is it better to focus on one region? The experience of 1994 to date is revealing. On a market cap weighted basis, telephone companies in the Asia Pacific region (excluding Japan) gained 9.38% while Latin American telcos have gained 1.5%. In contrast, the U.S. declined 3.4% and the European sector fell 2.2% in value.

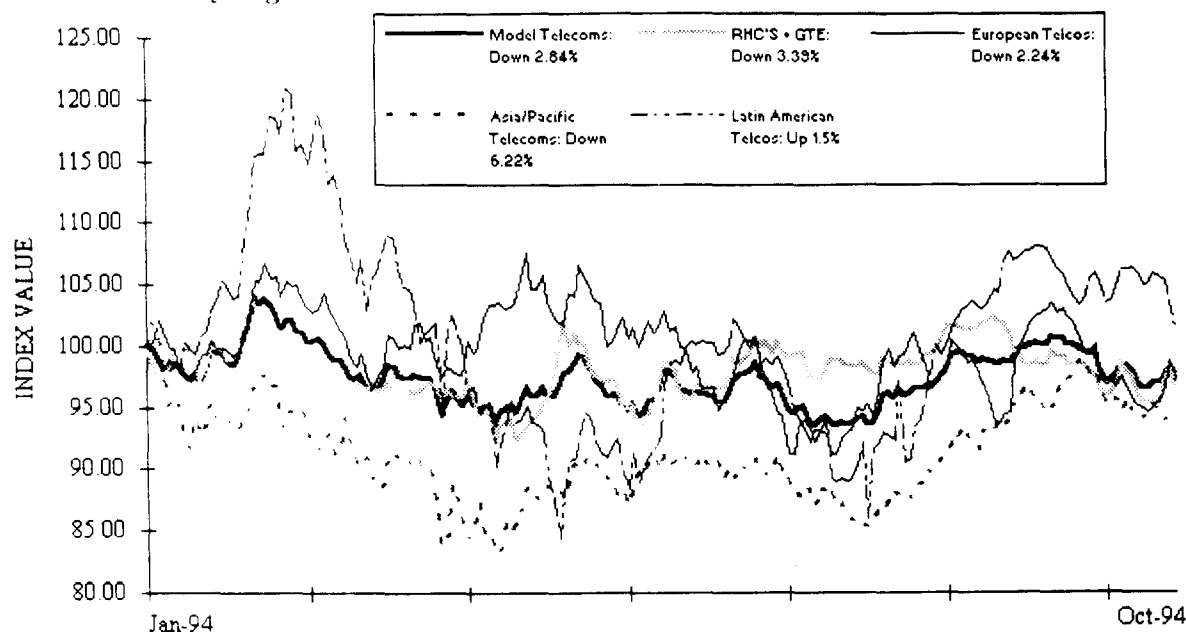
Of course it has not always been thus — that Latin American and Asian telcos have outperformed their U.S. and European counterparts. Telecom investors will remember the time when "plain vanilla" telcos offered the richest (and surest) rewards. The fact that different

telephone companies and different regions have nearly all at some point or other had their respective day in the sun simply underlines the virtues of global investing: there is a relatively low degree of correlation in performance between different regions, and very low degrees of correlation between different emerging markets (Table 11).

Furthermore, we suspect (although we have not yet collected the hard evidence) that there is also a relatively low correlation between what we consider "mature" telephone company performance and "emerging/growth" telephone company performance, whatever the region. We look forward to exploring this issue further. In the meantime, the recommendation is clear: diversify.

Figure 18

Global Telecom Stocks Price Performance by Region



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Table 10

Low Correlations Across Asset Classes

Monthly Dollar Returns (1970-1990)

Correlation Matrix	S&P 500	Gov't Bonds	Japan Stocks	Venture Capital	EAFE	Foreign Bonds	Emerging Markets
S&P 500	1.00						
Gov't Bonds	0.31	1.00					
Japanese Stocks	0.27	0.20	1.00				
Venture Capital	0.78	0.14	0.11	1.00			
EAFE	0.48	0.26	0.86	0.28	1.00		
Foreign Bonds	-0.13	0.33	0.39	-0.17	0.36	1.00	
Emerging Markets	0.22	-0.02	0.18	0.13	0.28	-0.28	1.00

Source: Morgan Stanley Research

Table 11

Low Correlations Across Emerging Markets

Latin America and Asia	0.33
Brazil and Argentina	-0.21
Chile and Mexico	0.35
India and Pakistan	0.20
Indonesia and Thailand	-0.03
Nigeria and Zimbabwe	-0.02
Turkey and Greece	0.14

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